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## (54) NEW NITRILE-HYDRATASE

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a new nitrile-hydratase capable of efficiently converting a nitrile compound to an amide compound corresponding to it, comprising an  $\alpha$  and  $\beta$  subunits having specific amino acid sequences, derived from Pseudonocardia.

SOLUTION: This new nitrile-hydratase comprises an  $\alpha$  subunit having an amino acid sequence of formula I and a  $\beta$  subunit having an amino acid sequence of formula II and is capable of efficiently converting a nitrile compound to an amide compound corresponding to it. The new nitrile-hydratase is obtained by culturing Pseudonocardia thermophila JCM3,095 by using a medium (pH7.5) containing 0.2% methacrylamide at 50° C for 3 days, collecting the bacterium by centrifugal separation, resuspending the bacterium in a phosphoric acid buffer solution, preparing a cell ground solution by using an ultrasonic grinder, centrifuging the solution, subjecting the supernatant liquid to column chromatography and fractionating.

Met Thr Glu Asn Ala Val Arg Asp Ser Asp Glu Glu Ile Glu Lys Glu  
 10 15  
 Ile Thr Ala Arg Val Lys Ala Lys Glu Ser Met Lys Ile Glu Lys Lys  
 20 25 30  
 Gly Ser Asp Lys Tyr Trp Ser Glu Glu Cys Lys Ala Thr Ser Val Thr Arg  
 35 40 45 50  
 Glu Ser Met Ile Gly Val Glu Pro Lys Lys Ala Val Ala  
 55 60 65 70  
 Met Asn Lys Val Tyr Asp Val Gly Gly Thr Asp Gly Lys Glu Lys Ile  
 75 80 85 90  
 Asn Asn Pro Ala Asp Thr Pro Val Thr Arg Ala Glu Thr Lys Lys Val  
 95 100 105 110  
 Asp Tyr Asp Ser Thr Val Tyr Tyr Asp Tyr Trp Glu Thr Tyr Ile Glu  
 115 120 125  
 Lys Val Asp Thr Lys Ala Lys Glu Lys  
 130 135 140

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## LEGAL STATUS

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